

Abstract

Membrane-structured solid nanoparticles having an average diameter in the range from 10 to 10 000 nm which are solid at 25°C and have a combination of active compound vehicle particles and emulsifiers such as to form membranes which infiltrate the entire nanoparticles so that there are emulsifiers in the interior and on the surface of the nanoparticles are described.

An aqueous vehicle dispersion in which there are solid active compound vehicle particles which are based on wax, polymer or lipid, have an average diameter in the range from 10 to 10 000 nm, and comprise at least one active pharmaceutical, cosmetic and/or food technology compound is produced by

- a) mixing the active compound with the wax-, polymer- or lipid-based active compound vehicle and at least one emulsifier which leads in stage b) to the formation of a lyotropic liquid-crystalline mixed phase, at a temperature above the melting or softening point of the active compound vehicle, to form a phase B,
- b) mechanically mixing the phase B with an aqueous phase A, which may comprise an emulsifier, at a temperature above the melting or softening point of the active compound vehicle, the weight ratio of phase B to phase A being 1:5 to 5:1, without high-pressure homogenization, to form a lyotropic liquid-crystalline mixed phase,
- c) diluting the mixed phase with an aqueous phase, which may comprise an emulsifier, at an aqueous-phase temperature which is below

the melting or softening point of the active compound vehicle, with stirring and without high-pressure homogenization, to a desired final concentration of the dispersion.
